

U.S. Patent Application Serial No. 09/684,898
Amendment dated August 11, 2003
Reply to OA of February 18, 2003

REMARKS

Claims 1-6, 8, 10-13, 15, 17, and 19-30 are pending in this application. Claims 7 and 14 have been canceled. Claim 30 has been newly added. Reconsideration of the rejections in view of the following remarks is respectfully requested.

Claims 1, 5, 12, 20, 23 and 26-28 have been amended in order to more particularly point out, and distinctly claim the subject matter to which the applicant regards as his invention. The applicant respectfully submits that no new matter has been added. It is believed that this Amendment is fully responsive to the Office Action dated February 18, 2003.

Rejection under 35 USC §102(e)

Claims 5, 6, 10, 11, 20, 21 and 27 stand rejected under 35 USC §102(e) as being unpatentable over Hasegawa et al (U.S. Patent No. 5,871,587).

Claim 5 has been amended to recite “obtaining data regarding the environment of at least a portion in a processing chamber in which said substrate processing apparatus is provided; and controlling the environment in an exposure chamber in which said exposure apparatus is provided and which is provided separately from the processing chamber, on the basis of the obtained data in such a manner that the environment of at least a portion in said exposure chamber becomes the same as the environment in said processing chamber.”

Similarly, claim 20 has been amended to recite “providing an adjusting device which adjusts an environment of at least a portion in said exposure chamber; and providing a control device which controls said adjusting device on the basis of data regarding the environment in said processing chamber in such a manner that the environment in said exposure chamber becomes the same as the environment of at least a portion in said processing chamber.”

Claim 27 also has been amended to recite “an adjusting device connected to said exposure chamber and which adjusts an environment of at least a portion in said exposure chamber; and a control device electrically connected to said adjusting device and which controls said adjusting device on the basis of data regarding the environment of at least a portion in said processing chamber in such a manner that the environment in said exposure chamber becomes the same as the environment in said processing chamber.”

Hasegawa et al describes the control of the purity of the gas as follows:

An evacuation line from the second chamber 130 is provided with a purity sensor 110 for measuring the purity of the discharged helium gas. Controller 112c serves to control the degree of opening of the flow rate control valve 112b in accordance with a detection output of the purity sensor 110, to change the flow rate of helium gas to be branched into the purifier 112a to thereby change the purification capacity of the purifying means. This allows very precise and quick control of the purity of helium gas to be supplied into the first chamber 101, which chamber needs precise purity control. The purity sensor 110 may comprise, for example, a sensor for directly detecting the gas purity or a sensor for measuring the temperature and sound speed in a gas to thereby indirectly detect the purity thereof. Any type of sensor may be used.

(Column 6, line 41-55).

In Hasegawa et al, the purity of gas supplied to the exposure chamber (101) is controlled based on the purity of gas on the side of the coater developer (131, 132) (the purity of gas used in the coater developer, which is measured at the exit of the coater developer). In other words, according to Hasegawa et al, the environment (purity of gas) in apparatus A (exposure apparatus (101)) is controlled based on the measurement of the environment (purity of gas) in another apparatus B (coater developer (131, 132)). Thus, Hasegawa et al does not control the purity of gas supplied into apparatus A such that the purity of gas in apparatus A becomes the same as the purity of gas in apparatus B.

In contrast, according to the present invention, the environment in an exposure chamber, in which said exposure apparatus is provided and which is provided separately from the processing chamber, is controlled on the basis of the obtained data in such a manner that the environment of at least a portion in said exposure chamber becomes the same as the environment in said processing chamber. Thus, the purity of gas supplied into apparatus A (exposure chamber) is controlled such that the purity of gas in apparatus A becomes the same as the purity of gas in apparatus B (processing chamber).

Thus, Hasegawa et al does not teach or suggest, among other things, “controlling the environment in an exposure chamber in which said exposure apparatus is provided and which is provided separately from the processing chamber, on the basis of the obtained data in such a manner that the environment of at least a portion in said exposure chamber becomes the same as the environment in said processing chamber,” as recited in amended claim 5.

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Similarly, Hasegawa et al does not teach or suggest, among other things, “providing a control device which controls said adjusting device on the basis of data regarding the environment in said processing chamber in such a manner that the environment in said exposure chamber becomes the same as the environment of at least a portion in said processing chamber,” as recited in amended claim 20.

Also, Hasegawa et al does not teach or suggest, among other things, “a control device electrically connected to said adjusting device and which controls said adjusting device on the basis of data regarding the environment of at least a portion in said processing chamber in such a manner that the environment in said exposure chamber becomes the same as the environment in said processing chamber,” as recited in amended claim 27.

For at least these reasons, claims 5, 20 and 21 patentably distinguish over Hasegawa et al. Claims 6, 10, and 11, depending from claim 5, and claim 21, depending from claim 20, also patentably distinguish over Hasegawa et al for at least the same reasons.

Rejection under 35 USC §103

Claims 1-4, 7, 8, 12-15, 17, 22-26, 28 and 29 stand rejected under 35 USC §103(a) as being unpatentable over Hasegawa et al.

Claim 7 has been canceled making the rejection of the claim moot. Claim 8, depending from claim 5, patentably distinguishes over Hasegawa et al for at least the same reasons discussed above regarding

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claim 5. Also, claim 22, depending from claim 20, patentably distinguishes over Hasegawa et al for at least the same reasons discussed above regarding claim 20.

Claim 1 has been amended to recite, among other things, “a control device electrically connected to the environment sensor, said control device controlling the environment in said at least the other of the first and the second chambers on the basis of a measured value given from said environment sensor in such a manner that the environment of at least a portion on a side of said exposure apparatus becomes the same as the environment of at least a portion on a side of said substrate processing apparatus”

Claim 12 has been amended to recite, among other things, “controlling the environment in a processing chamber in which said processing apparatus is provided and which is provided separately from the exposure chamber, on the basis of the obtained data in such a manner that the environment of at least a portion in said substrate processing chamber becomes the same as the environment in said exposure chamber.”

Claim 23 has been amended to recite, among other things, “providing a control device which controls said adjusting device on the basis of data regarding the environment in said exposure chamber in such a manner that the environment in said processing chamber becomes the same as the environment of at least a portion in said exposure chamber.”

Claim 26 has been amended to recite, among other things, “controlling the environment in the other chamber of the exposure chamber and the processing chamber on the basis of the obtained data in such

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a manner that the environment of at least a portion in one of said exposure chamber and said processing chamber becomes the same as the environment in the other of said chambers.”

Claim 28 has been amended to recite, among other things, “a control device electrically connected to said adjusting device and which controls said adjusting device on the basis of data regarding environment of at least a portion in said exposure chamber in such a manner that the environment in said processing chamber becomes the same as the environment in said exposure chamber.”

As discussed above regarding claims 5, 6, 10, 11, 20, 21 and 27, Hasegawa et al does not teach or suggest these recitations. For at least these reasons, claims 1, 12, 23, 26 and 28 patentably distinguish over Hasegawa et al.

Claims 2-4, depending from claim 1, also patentably distinguish over Hasegawa et al for at least the same reasons. Claims 13-15 and 17, depending from claim 12, also patentably distinguish over Hasegawa et al for at least the same reasons. Claims 24 and 25, depending from claim 23, also patentably distinguish over Hasegawa et al for at least the same reasons. Claim 29, depending from claim 28, also patentably distinguishes over Hasegawa et al for at least the same reasons.

In view of the aforementioned amendments and accompanying remarks, claims, as amended, are in condition for allowance, which action, at an early date, is requested.

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If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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